

## A B S T R A C T

"A semiconductor wafer comprising micro-machined components  
and a method for fabricating the semiconductor wafer"

5 A semiconductor wafer (1) having a matrix array of micro-mirrors (2) comprises a  
component substrate (4) carried on a base substrate (5). The component substrate  
(4) comprises a membrane layer (8) in which the micro-mirrors (2) are formed and a  
supporting handle layer (9). The base substrate (5) comprises a base layer (15)  
from which a plurality of pedestals (18) extend upwardly therefrom into cavities (14)  
10 in the handle layer (9) corresponding to the micro-mirrors (2). Each pedestal (18)  
carries electrodes (25) for co-operating with the micro-mirrors (2) for tilting thereof.  
Conductors (28) through vias (27) in the pedestals (18) connect the electrodes (25)  
to electrically conductive tracks (29) on a bottom surface (16), and in turn through  
conductors (36) through vias (35) to addressing terminals (33) for addressing the  
15 electrodes (25). By forming the pedestals (18) in the base substrate (5) and  
projecting the pedestals into the cavities (14) in the handle layer (9) the handle layer  
(9) is recessed into the base substrate (5) thereby facilitating the provision of a  
handle layer (9) of depth sufficient for adequately supporting the membrane layer (8)  
during fabrication of the wafer (1).

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Figs. 3 and 4 to accompany the abstract.